

**BY ORDER OF THE
SECRETARY OF THE AIR FORCE**

AIR FORCE INSTRUCTION 65-508

1 OCTOBER 1997



Financial Management

***COST ANALYSIS GUIDANCE AND
PROCEDURES***

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction implements Air Force Publishing Directive (AFPD) 65-5, Cost and Economics, 17 May 1993; Department of Defense (DoD) Regulation 5000.2-R, Mandatory Procedures for Major Defense Acquisition Programs (MDAPs) and Major Automated Information System (MAIS) Acquisition Programs, 15 March 1996 with Change 1; DoD Directive 5000.4, Office of the Secretary of Defense (OSD) Cost Analysis Improvement Group (CAIG), 24 November 1992; and DoD 5000.4-M, Cost Analysis Guidance and Procedures, 24 November 1992, with Change 1. It also establishes documentation requirements and review procedures for all cost estimates and provides specific instructions on cost analyses for Air Force management and financial decisions.

SUMMARY OF REVISIONS

This is the initial publication of Air Force Instruction (AFI) 65-508, primarily revising/replacing DoD 5000.4-M/Air Force Supplement 1, 31 January 1994. It updates and clarifies previous guidance on cost analyses. It also incorporates guidance previously issued by Air Force Material Command (AFMC).

Chapter 1

AIR FORCE (AF) COST ANALYSIS IMPROVEMENT GROUP (CAIG) PROCESS

Section 1A— Purpose

1.1. Purpose.

1.1.1. This chapter provides guidance on the Air Force (AF) Cost Analysis Improvement Group (CAIG) process used primarily in support of acquisition programs approaching a milestone decision.

1.1.2. All Acquisition Category (ACAT) I programs (including ACAT ID, IC, IAM and IAC programs) engaged in a milestone decision follow the AF CAIG process. Furthermore, at the discretion of SAF/AQ or the acquisition executive, a tailored AF CAIG process can be employed in support of program cost reviews other than milestone decisions.

1.1.3. For programs other than ACAT I programs, i.e. ACAT II programs, SAF/AQ or the Milestone Decision Authority (MDA) may require a tailored AF CAIG process be conducted. However, ACAT III programs (hereinafter referred to as AF CAIG-exempt programs) do not typically follow the AF CAIG process. Milestone/other decision authorities and their cost analysis support organizations are normally responsible for these AF CAIG-exempt programs.

Section 1B— Background

1.2. AF CAIG. The AF CAIG was established at the direction of the Secretary of the Air Force and is chaired by the Deputy Assistant Secretary of the Air Force (Cost and Economics). Its membership includes key stakeholders from the various functional offices of the Air Force Secretariat and the HQ USAF (see attachment 2). The AF CAIG's primary responsibility is to review cost estimates and provide a recommended Service Cost Position (SCP) to the Air Force Integrated Process Team (AF IPT) and the Overarching Integrated Product Team (OIPT), as necessary, for all ACAT I programs involved in a major milestone decision. (**NOTE:** The AF IPT assumed the responsibilities of the Air Force Systems Acquisition Review Council (AFSARC).)

1.3. Requirements.

1.3.1. The AF CAIG process was developed to meet the requirements of DoD 5000 regulations and Title 10, United States Code statute. As directed in DoD 5000.2-R (Part 3, paragraph 3.5), a life-cycle cost estimate shall be prepared by the program office in support of program initiation (usually Milestone I) and all subsequent milestone reviews of ACAT I programs. For ACAT IA programs, the estimate shall include an estimate of the life-cycle benefits in addition to life-cycle costs. (**NOTE:** Although the treatment of life cycle costs is similar for both ACAT I and ACAT IA programs, a major element of ACAT IA program milestone reviews is the examination of future life cycle costs and benefits in an economic analysis format. The economic analysis serves to systematically assess both the monetary and non-monetary costs and benefits of competing alternatives against the status quo. SAF/FMCE is responsible for directing the economic analysis of ACAT IA programs including the development of the Economic Analysis Development Plan.)

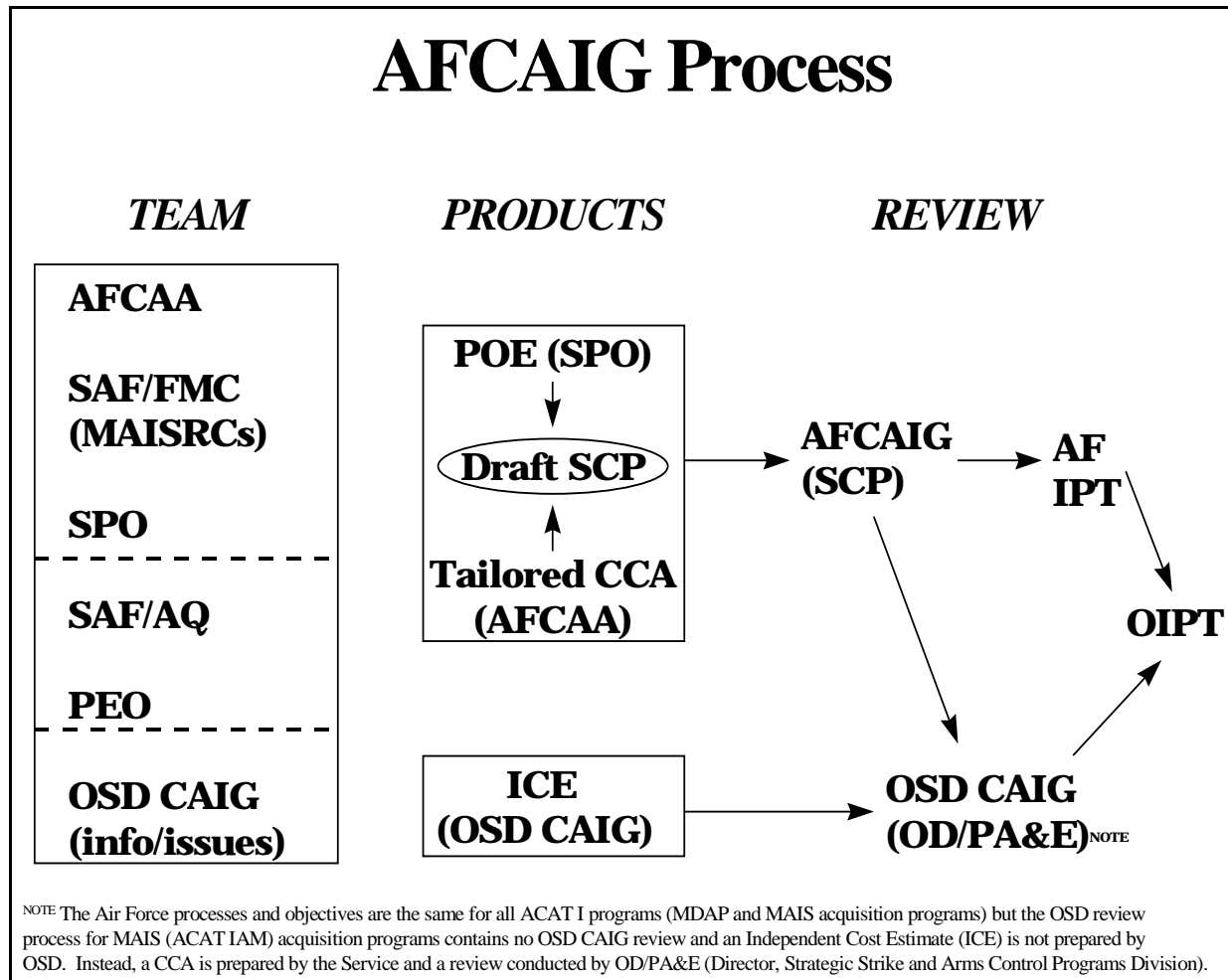
1.3.2. For ACAT ID programs, the OSD CAIG prepares an independent life-cycle cost estimate and a report for the appropriate Milestone Decision Authority (MDA) for all milestone reviews, after

Milestone 0. (**NOTE:** Refer to Department of Defense Regulation 5000.2-R, Mandatory Procedures for Major Defense Acquisition Programs (MDAPs) and Major Automated Information System (MAIS) Acquisition Programs, 15 March 1996, Sec. 3.5.1, paras. 1,3, page 22.) The OSD CAIG does not normally prepare an independent life-cycle cost estimate for ACAT IC programs. Thus, for programs delegated to the Air Force, the Air Force must, per requirements of Title 10, United States Code, prepare a Component Cost Analysis (CCA) for all milestone reviews subsequent to Milestone 0. (**NOTE:** Refer to Title 10, United States Code, Section 2434(b)(1)(A), Independent Cost Estimates for Major Defense Acquisition Programs.) Also, for all programs with significant cost risk or high visibility, the Component Acquisition Executive (CAE) may request that a CCA estimate be prepared in addition to the program office life-cycle cost estimate. Furthermore, DoD 5000.2-R specifically states that, for all ACAT IA programs, the sponsoring DoD Component must prepare a CCA for Milestone I reviews and update that CCA for Milestone II reviews and any subsequent decision points where conditions warrant. (**NOTE:** Refer to Department of Defense Regulation 5000.2-R, MDAPs and MAIS Acquisition Programs, 15 March 1996, Sec. 3.5.1, para. 4, page 22.) The following AF CAIG milestone review process ensures the Air Force produces the highest quality cost estimates that comply with these governing DoD regulations and statutes.

Section IC— Process

1.4. Phases of the AF CAIG Process. The AF CAIG process consists of three phases: 1) the Cost Integrated Process Team (CIPT) Kick-off Phase, 2) the CIPT SCP Development Phase, and 3) the briefing phase. Phase one entails the formation of a CIPT normally consisting of representatives from the Air Force Cost Analysis Agency (AFCAA), the System Program Office (SPO), SAF/AQ, and the Program Executive Office (PEO). An AFCAA representative typically serves as the lead. CIPTs for ACAT ID programs normally include a representative from the OSD CAIG and CIPTs for ACAT IAM programs normally include a representative from OD/PA&E (Director, Strategic Strike and Arms Control Programs Division). CIPTs for ACAT IA programs include a representative from SAF/FMCE to advise the Program Office and review the Life-Cycle Cost Benefit Analysis. During phase one, the CIPT determines, and recommends to the AF CAIG, the scope of cost analysis in support of the milestone review. The scope of this effort must be consistent with AF CAIG guidance and tailored to the needs and circumstances of the program. The extent of tailoring is related to the program acquisition phase, program risk, Congressional interest, dollar magnitude, etc. Phase two involves the development of the SCP. This is an iterative process that produces a single Air Force estimate that is briefed to the AF CAIG. Phase three, the final phase, entails briefing the SCP to the AF CAIG, obtaining SAF/AQ approved of the SCP, and, for ACAT ID, ACAT IAM and selected other programs, briefing the appropriate OSD organization. (**NOTE:** ACAT ID programs are briefed to the OSD CAIG, chaired by OD/PA&E (Deputy Director, Resource Analysis) and ACAT IAM programs are presented to OD/PA&E (Director, Strategic Strike and Arms Control Programs Division)). The SCP briefing cycle is conducted in support of and in conjunction with the AFIPT and the OIPT. The figure below briefly outlines the AF CAIG process while attachment 4 displays a typical AF CAIG milestone review process schedule. A detailed description of each phase follows.

Figure 1.1. AFCAIG Process.



1.4.1. CIPT Kick-Off Phase.

1.4.1.1. To prepare a draft SCP, a CIPT is formed. The CIPT consists of, as a minimum, representatives from the AFCAA, SAF/FMCE (MAISs only), the SPO, and for ACAT ID or IAM programs, OD/PA&E. Also, SAF/AQ and PEO or Designated Acquisition Commander (DAC) representation is highly recommended. The CIPT works within the overall DoD IPT structure as shown in attachment 3. Its purpose is to ensure a quality SCP is prepared in support of the AFIPT and Defense Acquisition Board (DAB), Major Automated Information System Review Committee (MAISRC) or Defense Acquisition Executive (DAE) review process.

1.4.1.2. The CIPT begins the kick-off phase by conducting a meeting as early as feasible. The meeting is held to determine the extent of the effort required to support the AF CAIG milestone review process, to develop a preliminary schedule, and to collect available program information (i.e., current Program Office Estimate (POE), preliminary Cost Analysis Requirements Description (CARD), program schedule, initial identification of high cost and high risk areas, technical and programmatic information, etc.). SPO or other technical support, used to help identify high cost and high risk areas, is highly recommended.

1.4.1.3. In order to facilitate the AF CAIG milestone review process through early identification and analysis of available information, and to ensure that an acceptable/costable draft CARD is prepared, the kick-off meeting should be held as soon as possible, preferably 30-60 days prior to the draft CARD due date. DoD 5000.2-R requires a draft CARD be provided at least 180 days prior to the OIPT.

1.4.1.4. Throughout the kick-off phase, follow-on CIPT meetings are conducted to further define the magnitude of the task, refine the schedule, and collect additional program information.

1.4.2. CIPT SCP Development Phase.

1.4.2.1. After the initial kick-off meeting, follow-on fact finding, and review of available information, the CIPT reconvenes to define the SCP development schedule (including projected AF CAIG, AF IPT, OIPT, OSD CAIG or OD/PA&E, and DAB/DAE review/MAISRC requirements). This commences the SCP development phase. This phase starts when the draft CARD is delivered (normally 180 days prior to the OIPT). At this time, schedule issues and concerns are discussed. If needed, the Program Office provides a program overview/status review and POE briefings that include program/system description, program requirements list, proposed schedules, baseline program/technical overview, acquisition strategy, buy quantities, and a comparison of the current POE to the approved program by appropriation. At this point, the AF CAIG Chairperson or full AF CAIG, in coordination with the PEO, reviews the CIPT's recommendations for approval. The CIPT recommends to the AF CAIG the extent and scope of the CCA team's (normally comprised of AFCAA personnel) responsibilities, which may range from the traditional "full-up" independent CCA, to an independent estimate of high cost/high risk elements, to a sufficiency review of various POE methodologies. This approach offers the flexibility to adjust resources and oversight to specific needs of the program. Based on the results of the AF CAIG decision, tasking is prepared by the CIPT lead. The tasking describes issues such as AF CAIG milestone review schedule, extent of the CCA team's responsibilities (e.g., the CCA team will estimate the following Work Breakdown Structure (WBS) elements . . .), and areas of concern.

1.4.2.2. During the SCP Development Phase, the System Program Office (SPO) finalizes the POE and the CCA team prepares the tailored CCA. The POE should be all inclusive, that is, an estimate of complete program life cycle cost. In cases where the POE exceeds current funding, a "zero-growth" alternative (a program structured to fit within funding constraints) should be priced. This situation should be discussed by the AF CAIG chairperson and the PEO or SAF/AQ, as appropriate. The tailored CCA is developed independently of the POE using alternative estimating methodologies. As elements of both the POE and CCA are finished, they are shared with the CIPT. The CIPT then decides whether or not to incorporate these new methodologies (estimates) into the draft SCP. For those methods accepted by the CIPT, no AF CAIG reconciliation is necessary. However, where no consensus can be reached by the CIPT, the issue is raised to the AF CAIG.

1.4.2.3. If needed, additional CIPT meetings are held to collect additional information, identify and resolve issues, modify the schedule, and make incremental decisions about portions of the SCP. The CIPT lead prepares meeting agendas, minutes, and interfaces with other HQ USAF and OSD offices. As issues are raised, every effort should be made to resolve them at the CIPT level. Issues that cannot be resolved within the CIPT are communicated by the CIPT to the AF CAIG Chair for resolution. This can be done any time during the SCP Development Phase.

1.4.3. Briefing Phase.

1.4.3.1. The CIPT lead briefs the AF CAIG on the pre-reconciliation methods and estimates for both the POE and CCA, changes to the POE or CCA as a result of the reconciliation process, and the CIPT's draft SCP. This AF CAIG briefing is normally held six weeks prior to the OIPT. At the onset of the AF CAIG briefing, a concise overview of the program is presented by a representative of the SPO, usually the Program Manager. The remainder of the AF CAIG briefing focuses on unresolved issues or special interest areas. After the AF CAIG briefing and successful resolution of all issues, the SCP is sent to SAF/AQ for approval.

1.4.3.2. Upon completion of the AF CAIG briefing cycle and SAF/AQ approval of the SCP, a SAF/AQ-approved SCP is presented to the appropriate OSD organization. ACAT ID programs are briefed to the OSD CAIG, chaired by OD/PA&E (Deputy Director, Resource Analysis) while ACAT IAM programs are presented to OD/PA&E (Director, Strategic Strike and Arms Control Programs Division). The CIPT lead normally schedules this briefing at least 21 calendar days prior to the scheduled OIPT or Component review meeting. The SPO presents a program overview, the CIPT presents the SCP, and the CCA team participates as deemed necessary by the AF CAIG or CIPT lead. The documentation reflecting the final SCP is supplied to the OSD CAIG no later than ten calendar days prior to the scheduled review.

Section 1D— AF CAIG-Exempt Programs

1.5. AF CAIG-Exempt Programs. Milestone/other decision authorities and their cost analysis support organizations are responsible for ensuring high quality cost estimates are produced in support of program and financial decisions not subject to the AF CAIG process. The Milestone/other decision authority may request use of the AF CAIG process from the Deputy Assistant Secretary of the Air Force (Cost and Economics).

Chapter 2

COST ANALYSIS REQUIREMENTS DESCRIPTION (CARD)

Section 2A— Purpose

2.1. Purpose. This chapter provides guidance on the Cost Analysis Requirements Description (CARD). A CARD is required for programs subject to the AF CAIG process described in Chapter 1.

Section 2B— Background

2.2. Card Requirements. DoD 5000.2-R requires the program office to provide a CARD in support of acquisition milestone reviews. The CARD is the basis for the life-cycle cost estimates and provides a description of the salient features of the acquisition program and of the system itself. The purpose of the CARD is to provide a system technical description and programmatic information on the system so that a common baseline is used to develop program life cycle cost estimates. A well-constructed CARD reduces the likelihood of misunderstanding program content and significantly reduces time to reconcile estimates. DoD 5000.2-R specifies that the CARD must be provided to the teams preparing the estimates at least 180 days in advance of a planned Overarching Integrated Product Team (OIPT) or Component review, unless another due date is agreed to by the OIPT. (**NOTE:** Refer to Department of Defense Regulation 5000.2-R, MDAPs and MAIS Acquisition Programs, 15 March 1996, Sec. 3.5.1, para. 2, page 22.) Determination as to whether the CARD is costable is made before the start of the 180 day schedule. This determination is made by the OSD CAIG analyst (for ACAT ID programs), the OD/PA&E (Director, Strategic Strike and Arms Control Programs Division) analyst (for ACAT IAM programs), or the CIPT (for ACAT IC and ACAT IAC programs).

Section 2C— Guidance

2.3. Guidance. As directed in DoD 5000.2-R, the CARD should be flexible and make reference to information available in other documents available to the cost estimators. For programs engaged in a source selection during the milestone review process, proposal information is often an essential component of the program definition. Under these circumstances, the CARD should be updated to include information that most accurately represents the program (such as ranges that reflect the entire spectrum of capable bidders or the system description of the selected contractor) or the CIPT should be given direct access to the proposal information.

2.3.1. The following paragraphs provide additional guidance to DoD 5000.4-M. Each paragraph number refers directly to a paragraph number in Chapter 1, DoD 5000.4-M:

2.3.1.1. The program description in the CARD should be consistent with the approved program, e.g., as described in the Acquisition Program Baseline, Acquisition Decision Memorandums (amendments included), etc.

2.3.1.2. To allow for effective CIPT performance, the draft CARD should be delivered to the CIPT as soon as it is available but not later than required by DoD 5000.2-R. This facilitates timely feedback and early issue resolution.

2.3.1.3. When a specific requirement is undefined or unknown at the time the CARD is prepared, an assumption is to be provided. The assumptions provided should be consistent with the assump-

tions used to create the POE. A statement such as "the specifics for this element are unknown at this time...for estimating purposes assume..." should be included. "To be determined" (TBD) is unacceptable.

2.3.1.4. The final CARD should be coordinated by the CIPT before being submitted to the PEO for approval and signature. The program office is responsible for ensuring the CARD is updated to reflect all program changes and the CIPT should be notified of all CARD updates.

2.3.1.5. The CARD should include a copy of the Program Work Breakdown Structure (WBS) dictionary and, where appropriate, address the relationship of specific Contract WBSs to the Program WBS. A draft cost structure for all phases of the system life-cycle (including the program WBS breakout and other categories such as military construction, flight test site costs, Operating and Support, etc.; reference DoD 5000.4-M, Chapter 2, TABLES 2-2, 2-3, and 2-4 for a typical summary level breakout) should also be in the CARD. CARD issues that cannot be resolved within the CIPT should be raised to the AF CAIG for resolution.

2.3.1.6. Where applicable, contracted and projected reliability parameters at the line replaceable unit/shop replaceable unit (LRU/SRU) level for the system, and support and training equipment should be provided.

2.3.1.7. Where applicable, contracted and projected maintainability parameters at the line replaceable unit/shop replaceable unit (LRU/SRU) level for the system, and support and training equipment should be provided.

2.3.1.8. Where applicable military construction requirements and estimates should be provided to the major command civil engineer, for review and programming.

2.3.1.9. Where applicable, line replaceable unit (LRU) development and procurement quantities should be provided. Identify items as developed, refurbished, commercial-off-the-shelf (COTS), or a non-developmental item (NDI).

2.3.1.10. Where applicable, provide a list of prime contractors and subcontractors/vendors, by specific plant and location, that will be developing and producing subsystems/LRUs.

2.4. Associated Efforts. In the CARD, present a description of all effort associated with the program, regardless of fund source or management control. This description should include the responsibility of each funding source.

Chapter 3

DOCUMENTATION

Section 3A— Purpose

3.1. Purpose. This chapter provides guidance on documentation for all cost estimates.

Section 3B— Background

3.2. Background. Chapter 1, DoD 5000.4-M requires documentation of the POE and CCA be submitted to the OSD CAIG for all ACAT ID programs. Draft documentation is required no later than 45 calendar days prior to the scheduled OIPT or Component review while final documentation is required no later than ten calendar days prior to the review. These requirements also apply to all other programs subject to the AF CAIG process (i.e., ACAT IC, IAM, and IAC programs). Documentation for any other program cost estimates should be submitted to milestone/other decision authorities and their cost analysis support organizations. All cost estimate documentation will be made available to higher headquarters comptroller organizations as required for various cost and program reviews. Documentation should be sufficiently complete and sufficiently well organized that a cost professional could reconstruct the estimate, given the documentation. (**NOTE:** Refer to Department of Defense 5000.4-M, Cost Analysis Guidance and Procedures, December 1992, Chapter 2, Section D.3, para 1, page 2-9.) For programs subject to the AF CAIG process, interim documentation requirements should be established by the CIPT during the CIPT Kick-off Meeting.

Section 3C— Guidance

3.3. Guidance. Cost estimate documentation is a detailed record of the procedures, data, environment, and events resulting in the development or update of an estimate. Good documentation supports the credibility of the estimate, aids in the analysis of changes in program cost, enables a reviewer to replicate the cost estimate, and contributes toward the population of data bases used to estimate the cost of future programs (see attachment 5, Cost Estimating Checklist). Final cost estimate documentation should be paginated and dated and should begin with a table of contents followed by a narrative summary section. Documentation must be submitted by electronic/designated media (as determined by the CIPT).

3.3.1. The summary section should briefly address, at a minimum, the following subheadings, where applicable.

3.3.1.1. Purpose of the Estimate. Briefly state if it is an initial or updated estimate. If updated, identify the prior estimate and where the cost track can be found in the documentation.

3.3.1.2. Team Composition. Identify all estimating team members, their organization, telephone number, and estimating responsibility.

3.3.1.3. Description of the Program. Include relevant technical and programmatic descriptions, performance parameters, acquisition strategies, and other meaningful information.

3.3.1.4. Scope of the Estimate. Describe program phases and appropriations.

3.3.1.5. Program Schedule. Provide master schedule for all program phases and include detailed fiscal year buy and delivery schedule.

3.3.1.6. Contract Information. Identify contract types, options, contract status, share ratios, special clauses, or any other relevant contract information.

3.3.1.7. Cost Estimate Summary. Provide time phased dollars by cost element structure (CES) and/or work breakdown structure (WBS) element in program constant year dollars and current year dollars (for Air Force financial management activities, current year dollars are identical to then-year dollars), as appropriate.

3.3.1.8. Ground Rules and Assumptions. List technical and programmatic conditions, estimating ground rules, constraints, and assumptions pertaining to the estimate.

3.3.1.9. Methods. Provide a brief description of the primary methods used to develop the estimate. Include a table summarizing the methods by CES and/or WBS and, if appropriate, by functional breakout.

3.3.2. Documentation should include the following details, as appropriate:

3.3.2.1. Listing and definition of the CES/WBS. All costs for systems should be estimated by CES and/or WBS Functional breakouts (i.e., engineering, manufacturing, etc.). The CES/WBS should be consistent with the cost estimate format and typical Air Force cost data collection and reporting procedures. (**NOTE:** Refer to MIL-STD-881B and the OSD CAIG Operating & Support Cost Estimating Guide (1 August 1991).)

3.3.2.2. For each element, the following information should be provided:

3.3.2.2.1. Title of Element. (This section should be repeated for each element.)

3.3.2.2.2. Fiscal Year (FY) Spread: A fiscal year spread of the cost associated with the element, in current year dollars.

3.3.2.2.3. Element Content: Describe what is being estimated within the element.

3.3.2.2.4. Estimating and FY Spread Procedures: A brief overview of the methods used to estimate and fiscally phase the cost estimate.

3.3.2.2.5. Detailed Description of Estimate Basis: Sufficient information to allow replication of the estimate by a cost analyst unfamiliar with the program. If necessary, this section should include sample calculations. The following checklist should be used to ensure all pertinent information is included:

- Labor rates
- Labor hours
- Material and subcontract costs
- Learning curves
- Factors and cost estimating relationships
- Cost models
- Analogous system data
- Inflation indices
- Estimator judgment
- Basis for fiscal year phasing

- Review of existing estimates
- Tests of reasonableness
- Allocation base

3.3.2.3. Where applicable, the detailed description of the cost estimating methods should clearly indicate:

3.3.2.3.1. Actual cost values used from current contracts or analogous programs

3.3.2.3.2. Regression or other analysis used, including development of a First Unit Cost (T1) and cost improvement curves

3.3.2.3.3. Source of direct labor hours and overhead rates

3.3.2.3.4. Source of material estimates

3.3.2.3.5. Basis or source of all factors, including explanation and justification of engineering complexity factors used to estimate costs and application of their base

3.3.2.3.6. Basis of cost estimating relationships (CERs) including source, data, and descriptive statistics (R-squared, correlation coefficients, T-statistics, relevant range, etc.), where applicable

3.3.2.3.7. Development or source of cost models and parametric input

3.3.2.4. Risk Assessments. Areas of uncertainty, such as pending negotiations, concurrency, schedule risk, performance requirements that are not yet firm, appropriateness of analogous systems, level of knowledge about support concepts, critical assumptions, etc., should be presented.

3.3.2.5. Sensitivity Analyses. Sensitivity analyses should be performed to include the impact of changing key cost estimate input parameters.

3.3.2.6. Acronyms. A list of acronyms should be included as an appendix to the documentation.

3.4. Using Contractor Cost Estimates. When using contractor cost estimates as the basis for program estimates, explain all cross-checks performed on these contractor estimates. Explain the analyses and reviews of any Defense Contract Audit Agency and Defense Plant Representative Office reports used as the basis of the estimate. Contractor Rough Order of Magnitude (ROM) estimates, non-negotiated contractor proposals and contractor Design to Cost estimates are not acceptable as the sole basis of estimate for programs going to AF CAIG or OSD CAIG reviews.

3.5. Using a Single Cost Curve. If a substantial portion of a production estimate is based on a composite or single cost improvement curve, a plot clearly displaying plot points should be provided. Plot points should include all relevant historical data, forecast points used to develop the estimate, and first unit costs (T1 values). Also, the slope(s) of the curve should be presented.

3.6. Changing Estimates. A cost track is required when an estimate changes. Documentation must include dollar amounts and precise reasons for cost changes. The cost track should be in program constant year and then-year dollars.

ROBERT F. HALE
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Financial Management and Comptroller

Attachment 1

GLOSSARY OF ABBREVIATIONS AND ACRONYMS

Abbreviations and Acronyms

ACAT—Acquisition Category
AF CAIG—Air Force Cost Analysis Improvement Group
AFSARC—Air Force Systems Acquisition Review Counsel
AoA—Analysis of Alternatives
BY\$—Base Year Dollars
CAE—Component Acquisition Executive
CAIG—Cost Analysis Improvement Group
CARD—Cost Analysis Requirements Description
CCA—Component Cost Analysis
CCDR—Contractor Cost Data Report
CES—Cost Element Structure
CIPT—Cost Integrated Process Team
CY\$—Constant Year Dollars
DAES—Defense Acquisition Executive Summary
DAB—Defense Acquisition Board
DAE—Defense Acquisition Executive
DAC—Designated Acquisition Commander
ECO—Engineering Change Order
FPRA—Forward Pricing Rate Agreement
FY—Fiscal Year
FYDP—Future Years Defense Program
MAIS—Major Automated Information Systems
MDA—Milestone Decision Authority
MDAP—Major Defense Acquisition Program
MER—Manpower Estimate Report
OGC—Other Government Costs
PEO—Program Executive Officer
PMD—Program Management Directive
POE—Program Office Estimate

PSA—Principal Staff Assistant
R&D—Research & Development
SAR—Selected Acquisition Report
SCP—Service Cost Position
SPO—System Program Office
TY\$—Then Year Dollars
WBS—Work Breakdown Structure

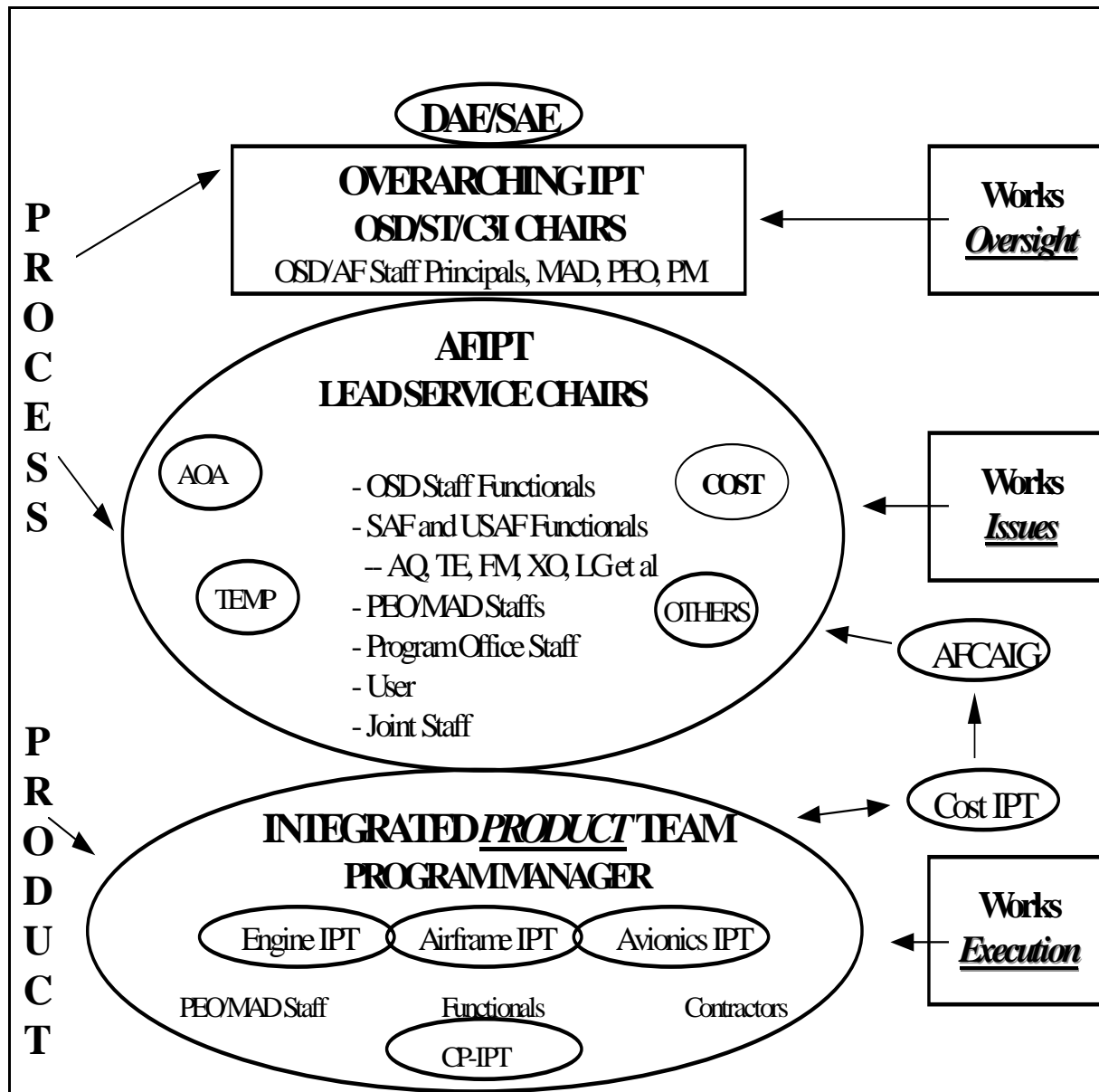
Attachment 2
AF CAIG MEMBERSHIP

Deputy Assistant Secretary (Cost and Economics), Chairperson	SAF/FMC
Director of Budget Investment	SAF/FMBI
Deputy Assistant Secretary (Management Policy and Program Integration)	SAF/AQX
Air Force Engineering Division	AF/ILEC
Director of Programs	AF/XPP
Director of Supply	AF/ILS
Director of Maintenance	AF/ILM
Director of Test & Evaluation	AF/TE
Chief of Manpower Requirements Division	AF/XPMR
Director of Operational Requirements	AF/XOR
Chief, Policy and Resources (for Automated Information System Programs)	AF/SCX
SAF/AQ Mission Director (for program being reviewed)	
Program Executive Officer (for program being reviewed)	

Other SAF and Air Force offices as deemed necessary by the AF CAIG chair.

Attachment 3
IPT STRUCTURE

Figure A3.1. IPT Structure.



Attachment 4

TYPICAL SCHEDULE FOR THE AF CAIG MILESTONE REVIEW PROCESS

<u>Phase</u>	<u>Event</u>	<u>Timing</u>
1	KICK-OFF MEETING	210-240 days before the OIPT
2	DRAFT CARD DUE	180 days before the OIPT*
	POE/CCA COMPLETE	73 days before the OIPT
3	AF CAIG SCP DECISION**	52 days before the OIPT
	DRAFT DOCS TO OSD	45 days before the OIPT*
	OSD CAIG REVIEW***	21 days before the OIPT*
	AF IPT REVIEW	14 days before the OIPT
	FINAL DOCS TO OSD	10 before the OIPT*
	OIPT REVIEW	14 days before the DAE Review*
	DAE REVIEW	Day 0

*Refer to DoD 5000.2-R, Section 3.5 and Section 5.6, and DoD 5000.4-M, Chapter 1, page 1-1 and Chapter 2, pages 2-8 through 2-11 for details regarding OSD regulatory schedule information.

**AF CAIGs for ACAT 1A programs include approval of Life Cycle Benefit Analysis. The Life Cycle Benefit Analysis incorporates, as applicable, the SCP as the cost estimate for the preferred alternative.

***For ACAT IA programs, there is no OSD CAIG review. Requirements for an OD/PA&E review are determined by OD/PA&E (Director, Strategic Strike and Arms Control Programs Division).

Attachment 5

COST ESTIMATING DOCUMENTATION CHECKLIST

Does the introduction section include as a minimum all of the following:

1. Table of Contents.
2. Program title and Program Elements (PEs).
3. Reference to the current Program Decision (PMD), if applicable, and the CARD.
4. Purpose and scope of the estimate.
5. Cost estimating team members listed by organization, phone number, and area estimated.
6. Description of system or effort being estimated. Identify what phases are being estimated and what cost are not included; i.e., Are only Air Force costs addressed? Is only the manned vehicle costed? Supply system drawings where available.
7. Program schedules; i.e., buy and delivery schedules.
8. Applicable contract information
9. Cost estimate summary by fiscal year in AF Form 1537 format in Base Year dollars (BY\$) and Then Year (TY\$)
10. Ground rules and assumptions identified and listed.

Does the detailed section of the estimate contain and/or express the following:

1. Estimate details presented by appropriation; i.e., Research, Development, Test and Evaluation (RDT&E), Procurement, Milcon, Operation and Maintenance (O&M) and Military Personnel (MILPERS).
2. Each section of the estimate addressed by WBS, CES or other cost element; i.e., Development 1.0, 2.0, 3.0 etc. and then Procurement 1.0, 2.0, 3.0 etc.
3. Detailed methods, sources, and calculations provided by WBS, CES or other cost element along with a fiscal year phasing and rationale for the phasing of that WBS, CES or other cost element.
4. Sufficient detail within the documentation to allow an independent analyst to duplicate the estimate if given access to the same data.
5. Rationale for selecting a specific cost estimating method, by WBS, CES or other cost element.
6. Identify by system the source of data used when referencing analogous systems; i.e., Selected Acquisition Reports (SARs), Defense Acquisition Executive Summary (DAES) reports Contractor Performance Reports (CPRs), Contractor Cost Data Reports (CCDRs), etc.
7. Cross-checks, reasonableness and consistency checks addressed by WBS, CES or other cost element. Specific references to a study, analogous system and/or other appropriate documented references are required.

8. Cost track to prior estimate provided, and rationale for deltas.
9. Both teams document the reconciliation between the CCA and POE.

Have the following issues been addressed and/or reviewed:

1. All pertinent cost are included.
2. Estimates are organized consistently and logically.
3. Learning curve slopes and factors are reasonable. Similar system slopes and factors are included as cross-checks.
4. Actuals were used/applied when available.
5. Latest OSD inflation rates were used and applied correctly.
6. Costed materials and efforts are consistent with the PMD and CARD.
7. Costs are consistent with current schedules.
8. Historical data values are shown and rationale given as to why it is reasonable to extrapolate from that data. For units that have already been produced in development or production, the unit or lot quantity and associated cost must be provided.
9. Briefing charts/estimates reference the most current Future Years Defense Program (FYDP) position for program funding. If shortfalls exist a zero budget growth option has been developed, briefed and documented.
10. POE costs are reflected properly in the Analysis of Alternatives (AoA)
11. Any annexes used for details of the estimate cross-check to the numbers shown in the basic estimate.
12. Annexes are properly labeled: WBS, or CES or other cost element, BY\$ or TY\$, methods, data sources, etc.
13. Acronyms defined.
14. Cost elements, such as Engineering Change Orders (ECO) and Other Government Costs (OGC) are properly costed and documented.
15. Personnel cost consistent with the Manpower Estimate Report (MER).
16. Sensitivity Analysis is documented.
17. Uncertainty Assessment (concept of risk analysis, risk models used, rationale for input distributions, # of iterations, output distributions).
18. Wrap rate/Forward Pricing Rate Agreement (FPRA) assumptions are included.
19. Reconciliation between POE and CCA where applicable.